AMENDMENTS

In the Claims

Please amend the claims as follows. This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A protected component for use in a molten metal bath, the protected component including a non-coated component and a protective coating and made by the process of: (a) placing a protective coating on a non-coated component, wherein a space exists between the non-coated component and the protective coating; (b) injecting uncured cement into the space wherein at least some of the uncured cement is injected into the space through either one or more channels in the non-coated component or one or more openings in the protective coating; and (c) allowing the uncured cement to cure, thus adhering the non-coated component to the protective coating.

2. (Original) The protected component of claim 1 wherein at least some of the uncured cement is injected into the space through a channel in the non-coated component.

3. (Original) The protected component of claim 1 wherein at least some of the uncured cement is injected into the space through an opening in the protective coating.

4. (Original) The protected component of claim 1 wherein the protective coating is positioned on the non-coated component by a beveled lip formed on the non-coated component.

5. (Original) The protected component of claim 4 wherein there is a gasket between the beveled lip and the protective coating.

6. (Original) The protected component of claim 1 wherein a gasket is positioned between the protective coating and the non-coated component.

7. (Original) The protected component of claim 1 wherein the non-coated component is comprised of graphite.

8. (Original) The protected component of claim 1 wherein the protective coating covers only part of the non-coated component.

9. (Original) The protected component of claim 1 wherein the component is a support post.

10. (Original) The protected component of claim 1 wherein the protective coating is comprised of ceramic.

11. (Original) The protected component of claim 10 wherein the protective coating is comprised of one or more of the group consisting of nitride-bonded silicon carbide and aluminum oxide.

12. (Original) The protected component of claim 1 wherein the non-coated component is centered inside the protective coating.

13. (Original) The protected component of claim 1 wherein the protective coating has a uniform thickness.

14. (Original) The protected component of claim 1 which is a rotor shaft for a molten metal pump.

15. (Original) The protected component of claim 1 which is a rotor shaft for a rotary degasser.

16. (Original) The protected component of claim 1 which is a rotor shaft for a scrap melter.

17. (Original) The protected component of claim 1 which is a support post for a molten metal pump.

18. (Original) The protected component of claim 1 which is a metal-transfer conduit for a molten metal pump.

19. (Original) The protected component of claim 1 which is a gas-transfer conduit for a molten metal pump.

20. (Original) The protected component of claim 1 which is a pump base for a molten metal pump.

21. (Original) The protected component of claim 1 which is a rotor for a molten metal pump.

22. (Original) A device for pumping or otherwise conveying molten metal, the device including: (a) a superstructure supporting a drive source; (b) a drive shaft having a first end and a second end, the first end connected to the drive source; (c) a pump base including an inlet, a pump chamber, and a discharge; (d) one or more support posts connecting the pump base to the superstructure; and (e) an impeller attached to the second end of the drive shaft, the impeller positioned at least partially within the pump chamber; wherein one or more of the group consisting of: the drive shaft, the pump base, the one or more support posts and the impeller is a protected component according to claim 1.

23. (Original) The device of claim 22 wherein the drive shaft comprises: (a) a motor shaft having a first end and a second end, the first end connected to the drive source; (b) a coupling having a first coupling member and a second coupling member, the first coupling member connected to the second end of the motor shaft, and (c) a rotor shaft having a first end and second end, the first end of the rotor shaft connected to the second coupling member and the second end of the rotor shaft connected to the rotor.

24. (Original) The device of claim 22 that further includes a gas-transfer conduit having a first end connected to a gas source and a second end for releasing gas into molten metal.

25. (Original) The device of claim 24 wherein the gas-transfer conduit is a protected component according to claim 1.

26. (Original) The device of claim 22 that further includes a metal-transfer conduit downstream of the discharge.

27. (Original) The device of claim 26 wherein the metal-transfer conduit is a protected component according to claim 1.

28. (Original) The device of claim 26 that further includes a gas-transfer conduit having a first end connected to a gas source and a second end for releasing gas into molten metal.

29. (Original) The device of claim 22 wherein each protected component includes a non-coated component comprised of graphite.

30. (Original) The device of claim 29 wherein each protected component includes a protective coating comprising a material selected from one or more of the group consisting of nitride-bonded silicon carbide and aluminum oxide.

31. (Original) The device of claim 22 wherein the non-coated component of each protected component is only partially covered with the protective coating.

32. (Original) The device of claim 22 wherein the rotor shaft is a protected component according to claim 1.

33. (Original) The device of claim 22 wherein one of the one or more support posts is a protected component according to claim 1.

34. (Original) A device for use in molten metal, the device including: (a) a drive source; (b) a drive shaft having a first end connected to the drive source and a second end; and (c) an impeller connected to the second end of the drive shaft. wherein one or more of the group consisting of the drive shaft and the impeller is a protected component according to claim 1.

35. (Original) The device of claim 34 wherein the device is a rotary degasser.

36. (Original) The device of claim 34 wherein the device is a scrap melter.

37. (Original) The device of claim 34 wherein the drive shaft is a protected component according to claim 1 and includes a non-coated component comprised of graphite and a protective coating comprised of one or more of the group consisting of nitride-bonded silicon carbide and aluminum oxide.

38. (Original) The device of claim 37 wherein the protective coating covers part of the non-coated component.

39. (Original) The device of claim 34 wherein the impeller is a protected component according to claim 1.

40. (Original) A protected component for use in molten metal, the protected component comprising a non-coated component and a refractory coating surrounding at least part of the non-coated component.

41. (Original) The protected component of claim 40 that is made by the process of: (a) placing the non-coated component on a vibrating table; (b) placing a mold around the non-coated component, there being a space between the mold and the non-coated component; (c) using a funnel to direct uncured refractory into the space; and (d) allowing the refractory to cure thus forming a protected component having a refractory coating.

42. (Original) The protected component of claim 41 wherein the mold is comprised of plaster.

43. (Original) The protected component of claim 41 wherein the mold is comprised of cardboard.

44. (Original) The protected component of claim 40 wherein the protected component is a support post.

45. (Original) The protected component of claim 40 wherein the protected component is a rotor shaft.

46. (Original) The protected component of claim 40 wherein the funnel is part of the mold.

47. (Original) The protected component of claim 40 wherein the refractory coating covers part of the non-coated component.

48. (Original) The protected component of claim 40 wherein the process further comprises the step of separating the mold from the protected component.

49. (Original) The component of claim 40 wherein the refractory coating does not cover all of the non-coated component.

50. (Original) The protected component of claim 40 that is made by the process of: (a) placing a mold around the non-coated component, there being a space between the mold and the non-coated component; (b) injecting refractory into the space; and (c) allowing the refractory to cure thus forming a protected component having a refractory coating.

51. (Original) The protected component of claim 50 wherein the process further includes the step of separating the mold from the protected component.

52. (Original) The protected component of claim 50 wherein the protected component is a support post.

53. (Original) A device for pumping or otherwise conveying molten metal, the device including: (a) a superstructure supporting a drive source; (b) a drive shaft having a first end and a second end, the first end connected to the drive source; (c) a pump base including an inlet, a pump chamber, and a discharge; (d) one or more support posts connecting the pump base to the superstructure; and (e) an impeller attached to the second end of the drive shaft, the impeller positioned at least partially within the pump chamber; wherein one or more of the group consisting of: the drive shaft, the pump base, the one or more support posts and the impeller is a protected component according to claim 40.

54. (Original) The protected component of claim 40 that is made by the process of: (a) placing a mold around the non-coated component, there being a space between the mold and the non-coated component; (b) directing uncured refractory into the space; and (c) vibrating the non-coated component or the mold to assist in the movement of the refractory into the space.